

Trade and Industrial Education
Course: Principles of Welding
Course Code # 5786
2 Credits

School Year _____
Term: ___ Fall ___ Spring

Student:	Grade:
Teacher:	School:
Number of Competencies in Course: 30	
Number of Competencies Mastered:	
Percent of Competencies Mastered:	

STANDARD 1.0: Students will demonstrate leadership, citizenship and teamwork skills required for success in the school, community, and workplace.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
1.1.	Exhibit positive leadership skills.			
1.2.	Participate in SkillsUSA-VICA as an integral part of classroom instruction.			
1.3.	Assess situations and apply problem-solving and decision-making skills to particular client relations in the community, and workplace.			
1.4.	Demonstrate the ability to work cooperatively with others in a professional setting.			

STANDARD 2.0: Students will read, comprehend, and communicate written and spoken technical specifications and instructions related to welding and welded assemblies.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
2.1.	Demonstrate mathematical skills related to work assignments.			
2.2.	Read and demonstrate understanding of the welding terms and definitions from ANSI/AWS A3.0, <i>Standard Welding Terms and Definition</i> .			
2.3.	Complete a job assignment, given verbal work assignments.			
2.4.	Complete a job assignment, given written work assignments.			

STANDARD 3.0: Students will relate the properties of metals to weldments and the welding processes.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
3.1	Evaluate the mechanical properties of metals and their importance in welding processes.			
3.2	Analyze the thermal properties of metals and their effects on welding processes.			

STANDARD 4.0: Students will interpret drawings and welding symbol information.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
4.1	Read and sketch drawings.			
4.2	Identify basic weld symbols.			
4.3	Identify lines and joints.			
4.4	Differentiate between drawings and blueprints.			

STANDARD 5.0: Students will safely store, operate, and maintain welding equipment and accessories.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
5.1	Implement and comply with ANSI Z49.1, <i>Safety and Welding, Cutting, and Allied Processes</i> and Occupational Safety and Health Administration (OSHA) requirements for operating each piece of equipment.			
5.2	Demonstrate required safety practices while operating all equipment and tools.			
5.3	Exhibit acceptable dress and personal grooming as identified by the welding industry.			
5.4	Demonstrate the use of basic metal working and welding equipment.			
5.5	Evaluate the importance and use of ventilation.			
5.6	Properly handle welding gas cylinders.			
5.7	Pass with 100 % accuracy a written examination relating to safety issues.			
5.8	Pass with 100% accuracy a performance examination relating to safety.			
5.9	Maintain a portfolio record of written safety examinations and equipment examinations for which the student has passed an operational checkout by the instructor.			

STANDARD 6.0: Students will perform oxyfuel-cutting operations.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
6.1	Prepare layouts for cutting individual parts.			
6.2	Perform cuts using oxyfuel gas-cutting process.			
6.3	Use weld-washing techniques.			

STANDARD 7.0: Students will make single-and multiple-pass fillet and groove welds using a shielded, metal arc welding (SMAW) process.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
7.1	Make single-and multiple-pass fillet and groove welds in the flat position.			
7.2	Make single-and multiple-pass fillet and groove welds in the horizontal position.			
7.3	Make single-and multiple-pass fillet and groove in the vertical position.			
7.4	Make single-and multiple-pass fillet and groove welds in the overhead position.			

Additional Comments _____